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D E C I S I O N
of 8 September 2004

Case Number: T 0550/02 - 3.2.3

Application Number: 96105033.3

Publication Number: 0735193

IPC: E01C 23/088

Language of the proceedings: EN

Title of invention:

A perfected road scarifying machine for the removal of road surfacings

Patentee:

BITELLI S.p.A.

Opponent:

Wirtgen GmbH

Headword:

-

Relevant legal provisions:

EPC Art. 54, 56

Keyword:

"Novelty (yes)"
"Inventive step (yes)"

Decisions cited:

-

Catchword:

-



Case Number: T 0550/02 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal 3.2.3
of 8 September 2004

Appellant:
(Opponent)

Wirtgen GmbH
Höhner Str. 2
D-53578 Windhagen (DE)

Representative:

Dallmeyer, Georg, Dipl.-Ing.
Patentanwälte
Von Kreisler-Selting-Werner
Bahnhofsvorplatz 1 (Deichmannhaus)
D-50667 Köln (DE)

Respondent:
(Proprietor of the patent)

BITELLI S.p.A.
Via IV Novembre 2
I-40061 Minerbio (BO) (IT)

Representative:

Wagner, Karl H., Dipl.-Ing.
WAGNER & GEYER
Patentanwälte
Gewürzmühlstrasse 5
D-80538 München (DE)

Decision under appeal:

**Decision of the Opposition Division of the
European Patent Office posted 5 April 2002
rejecting the opposition filed against European
patent No. 0735193 pursuant to Article 102(2)
EPC.**

Composition of the Board:

Chairman: C. T. Wilson
Members: J. B. F. Kollar
J. P. B. Seitz

Summary of Facts and Submissions

I. The appellant (opponent) lodged an appeal, received on 24 May 2002, against the decision of the opposition division, dispatched on 5 April 2002, to reject the opposition against the European patent No. 0 735 193. The fee for the appeal was paid on 24 May 2002. The statement setting out the grounds of appeal was received on 9 August 2002.

II. Opposition had been filed against the patent as a whole on the basis of Article 100(a) EPC on the grounds that the subject-matter of the patent lacked novelty or inventive step and on the basis of Article 100(b) EPC because of insufficiency of the disclosure.

To support his objections the opponent referred to documents D1 to D9. After expiration of the nine month period according to Article 99(1) EPC the opponent filed the further documents D10 to D13.

III. In the statement of grounds of appeal the appellant objected to lack of novelty of the subject-matter of claim 1 in the light of document D4 and to lack of inventive step in the light of the combination of document D4 and the knowledge of the skilled person or documents D1 and D4 or documents D4 and D3 or documents D1 and D5.

IV. On 8 September 2004 oral proceedings were conducted according to the auxiliary requests of both parties.

At the oral proceedings the appellant submitted for the first time the document D14 and requested that D14 be considered as admissible, the decision under appeal be set aside and the patent be revoked.

The respondent (patentee) requested that the late filed document D14 be disregarded and the appeal be dismissed. He auxiliarily requested that the impugned decision be set aside and that the patent be maintained on the basis of one of his six auxiliary requests all filed with letter dated 14 January 2002.

V. The numbering of the documents referred to in the appeal proceedings reads as follows:

D1: DE-A-2 505 561

D3: DE-A-3 101 216

D4: DE-U-71 45 861

D5: DE-U-74 22 578

D10: Picture "archimedische Spirale", F. Balck, IPPT,
TU-Clausthal

D11: Picture "archimedische Schraube", F- Balck, IPPT,
TU-Clausthal

D12: "Technische Spiralen einmal nüchtern betrachtet"
Arthur Czwalinka: Archimedes, Werke;
Wissenschaftliche Buchgesellschaft, Darmstadt,
1972

D13: Georg Reitor: "Fordertechnik: Hebezeuge, Stetigförderer, Lagertechnik", Hanser, 1979; page 489 and table 8-2

D14: DE-C-1 658 008.

VI. The wording of independent claim 1 as granted reads as follows:

"1. A road scarifying machine (1) for the removal of road surfacings, comprising:

- a frame (2) mounted on wheels (3) which supports at least one driving unit (4) and at least one driver's seat (5);
- a milling drum (6) connected to said frame (2) and mechanically connected to power means suited to drive it into rotation in order to crush said road surfacing (7) with which it comes into contact,
- conveyance means (9) being transversally arranged in relation to said frame (2), suited to discharge on the side of the road scarifying machine (1) and off the working area (72) of the milling drum (6) the debris (71) resulting from the crushing of the road surfacing (7), which is loaded into them by a centrifugal force because of the rotation of said milling drum (6),

characterized in that said conveyance means (9) consist of at least one rotating auger (9) arranged adjacent to said milling drum (6) and lodged inside a collecting channel (91) connected to said frame (2) of said road scarifying machine

(1), said collecting channel (91) being suited to receive said debris (71) removed by said milling drum (6), said auger (9) being slanted from bottom-to-top according to the direction of progress of the debris (71) along the auger (9) itself."

VII. The arguments of the appellant may be summarised as follows:

The disclosure of document D14 destroys novelty of the subject-matter of claim 1.

Should D14 not be allowed into the procedure document D4 would form the closest prior art. This document describes a road scarifying machine according to the preamble of claim 1 and discloses at page 3, paragraph 3 that the conveyance means may be a rotating auger (Archimedes-Spirale) lodged inside a collecting channel (Trog).

It is implicit that said collecting channel is connected to the frame of the road scarifying machine and is suited to receive the debris removed by the milling drum.

It is further implicit that said auger is slanted from bottom-to-top according to the direction of progress of the debris along the auger itself, since the term "ein eine Archimedes-Spirale enthaltend Trog" always refers to a slanted arrangement of the auger; in the context with the term "archimedes spiral" reference is made to D10 to D13 showing slanted arrangement of the auger conveyors.

Thus it is obvious that the auger known from D4 could also be slanted if needed so that the skilled person in possession of this knowledge would be led to the subject-matter of claim 1 without involving an inventive skill.

Even starting from documents D1 or D3 which disclose a road scarifying machine according to the preamble of claim 1 the skilled person considering the teaching of D4 or D5 would not need to use any inventive skill in order to replace the two transverse and horizontally arranged augers by a slanted auger suitable to discharge the debris on the side of the road.

In the oral proceedings the appellant abandoned the objection under Article 83 EPC.

VIII. The arguments of the respondent may be summarised as follows:

The late filed document D14 is less relevant than the documents filed in time and should not be allowed into the procedure.

In document D4 is described a road scarifying machine provided with features of a transport device. A transport device 19 of the preferred embodiment comprises a first conveyor belt 21 and a second conveyor belt 22 extending transversally and parallel to the driving direction of the machine, respectively. At page 3 of D4 there is stated that the transport device may comprise an archimedes spiral, a vibrational conveyor or any other known conveyor means. However,

neither D4 nor the documents D10 to D13 referring to the term "archimedes spiral" as water lifting apparatus give the skilled person looking for an improved way of clearing the debris from the area of the roadway where the milling drum is operating a hint how and in which manner the afore-mentioned conveyor means should be arranged when replacing the conveyor belt(s) of the preferred embodiment. The combination of said documents would thus not without an inventive skill directly lead to the scarifying machine of claim 1 as granted.

It is furthermore, submitted that none of the devices disclosed in D1, D3 or D5 are suited to discharge the debris on the side of the road scarifying machine and the combination of these documents with the teaching of document D4 for the purpose of rendering obvious the subject-matter of claim 1 is mere *ex post facto* analysis in the light of the present invention.

Reasons for the Decision

1. The appeal is admissible.

2. The examination of the late filed document D14 revealed that this document is not more relevant than the documents filed in time and does not disclose matter which could change the outcome of the decision. The document discloses a device for removing snow or earth from road verges, the device does not contain any milling drum and the material is not loaded into conveyance means by a centrifugal force.

Therefore the Board decided to disregard the document D14 pursuant to Article 114(2) EPC.

3. The disputed patent relates to a road scarifying machine for the removal of road surfacings according to the preamble of claim 1. A scarifying machine of this kind is already known from document D4 which the Board considers as the closest state of the art in agreement with the Opposition Division and the parties.

In the light of the closest prior art the technical problem underlying the patent can be seen in a more convenient removal of the milled material from the working space of the milling drum.

It is proposed to solve this problem by the features recited in the characterising part of claim 1, namely

- (a) conveyance means consisting of at least one rotating auger arranged adjacent to the milling drum and lodged inside a collecting channel connected to the frame of the road scarifying machine,
- (b) said collecting channel being suited to receive said debris removed by the milling drum,
- (c) the auger being slanted from bottom-to-top according to the direction of progress of the debris along the auger itself.

- In view of the detailed description and specific example, while indicating a preferred embodiment of the invention in the patent specification the Board is satisfied that the technical problem has been plausibly solved by the features of claim 1.
4. After examination of the cited documents, the Board has come to the conclusion that none of them discloses a road scarifying machine according to the preamble of claim 1 having additionally the features (a), (b) and (c) stated above. The subject-matter of claim 1 thus satisfies the requirements of Article 54 EPC.
 5. It therefore remains to be examined whether the requirement of inventive step is met by the claimed subject-matter.
 - 5.1 The milling drum of the scarifier according to D4 rotates against the direction of progress and thus conveys the crushed material falling by gravity onto a conveyance device arranged behind the milling drums. The conveyance device of the preferred embodiment of D4 comprises a first conveyor belt extending transversally to the driving direction of the machine parallelly along the whole length of the milling drum and a second conveyor belt extending from a discharge end of the first conveyor belt to the desired collection location. It is stated in D4 (cf. page 3, 3rd paragraph) that the conveyance device may comprise an archimedes spiral, a vibrational conveyor or any other known conveyor means.
 - 5.2 Relating to the term "archimedes spiral" and augers the appellant has submitted and drawn attention to documents D10 to D13 which relate to the preferred use

of such an "archimedes spiral" as water lifting apparatus. Further, the appellant argued that the term "archimedes spiral" has a specific meaning in the art, namely conveying material in slightly inclined direction and will be accordingly understood and applied as such by the man skilled in the art of the present technical field of road construction machines, in particular scarifiers, without exercising an inventive skill.

- 5.3 The Board cannot follow the appellant's arguments in connection with the documents D10 to D13. The literature as submitted by the appellant merely shows one historical importance of auger conveyors according to the principle of Archimedes for lifting a liquid, i.e. water, but cannot support the assumption that such auger conveyors are only used for lifting the conveyed material to a higher position and thus are always slanted. Thus, in this basic literature as it is represented by D13 auger conveyors are described as horizontal conveyors and as slightly slanted conveyors. Even if it were assumed to the appellant's benefit that the contribution of the augers and the "archimedes spiral" to transport of material from a lower to a higher position was known, then the skilled person would not have unambiguously and directly recognised in view of D10 to D13 which part of the conveyance means shown in D4 is to be realised by the "archimedes spiral", e.g. a conveyor means being arranged transversely to the travelling direction or a conveyor means being arranged along the travelling direction of the scarifier machine or indeed both. Moreover, D4 does not provide any hint as to the exact arrangement of such an "archimedes spiral" in a slanted manner and

does not reveal how the inclined transversal conveyor disposed closely behind the milling drum and below the horizontal plane containing the axis of rotation of the milling drum, essential features of the invention of D4, see claim 1, "dicht hinter der Fräzwalze und unterhalb der durch die Walzachse gehenden Horizontalebene", can remain adjacent to the milling drum as required in claim 1 of the disputed patent.

5.4 The remaining documents D1, D3 and D5 are more remote from the subject-matter of claim 1 than the aforementioned documents, because they contain no indication that the conveyance means might consist of augers being slanted from bottom-to-top according to the direction of progress of the debris along the auger itself as claimed in claim 1.

5.5 Therefore, for the reasons given above, the Board considers that it was not obvious in the light of the cited prior art to provide the road scarifying machine known from D4 with the characterising features (a), (b) and (c) of claim 1 in order to solve the problem defined above.

It results from the preceding that the subject-matter of claim 1 meets the requirement of inventive step set out in Articles 52(1) and 56 EPC.

6. Dependent claims 2 to 4, which relate to preferred embodiments of claim 1, derive their patentability from that of claim 1.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

A. Counillon

C. T. Wilson